Tabula User Guide

Contents

Introduction

Welcome

Tabula Rasa, developed for use by King County Staff and consultants, provides conveyance costs estimates at the planning level. It integrates information gathered through analysis of historical costs and other cost planning curves to provide budgetary planning estimates in a consistent and reproducible manner. If you would like more information on how the Cost Estimating was calculated, please contact Wastewater Treatment Division, King County. The technical memo concerning the development of this database is located at
http: http://dnr.metrokc.gov/wtd/csi/library.htm
under Cost Estimate and Cost Parameter Reports

Over time, construction methods improve and other cost tend to change as a result of various reasons. Eventually, the logic and formulas that generate the cost estimates produced by Tabula produce results that too different from actual costs to be useful for budgetary planning purposes. For this reason, Tabula provides a relatively easy way to re-configure the cost calculation logic and formulas. KC WTD intends to keep this cost estimating effort up to date.

This document gives a general knowledge on how to operate Tabula, and guides the user on editing cost parameters, and other Tabula Parameters.

This manual assumes the user has read the Tabula Installation Guide, Tabula User End License Agreement, and has installed Tabula.

Chapter 1: Beginning

Starting and Quitting Tabula

To Start Tabula

- Open the program group to which you installed Tabula. Double-click the Tabula program icon 
- Or use the start bar, Start>Programs>Tabula>Tabula

Quitting Tabula

- From the File menu choose exit, or using the mouse double-click on the x-icon on the Tabula window.

After starting Tabula three options appear; **Create a New Project**, **Open Recent Project**, and **Open Existing Project**.

Creating a New Project

Selecting the ENR CCI (Engineering News Record Construction Cost Index). The values may be left blank and changed it later. Leaving it blank will give a default ENR CCI year of 2005, and a default Construction Cost Escalation Rate of 3.8%.

Changing the ENR CCI Values this is explained later on in Chapter 2, Editing ENR CCI Values.

Open Recent Project

To open a previous Tabula file that was recently worked on.

Open Existing Project

To open a previous Tabula file that had been previously worked on. The default folder is the Windows Folder. Note that projects created with Tabula 1.0 cannot be opened with Tabula 2.0 at this time.

ENR CCI Values

The fixed ENR CCI years are from 1970 to 2005, and are from the Seattle Area. The ENR Seattle CCI was selected to update local historical costs because it is specific to the Seattle metropolitan area, updated on a regular basis, and is in common use. These values are fixed in Tabula

Year	ENR CCI	Year	ENR CCI	Year	ENR CCI
1970	1408.20	1982	4490.38	1994	5818.49
1971	1569.78	1983	4559.55	1995	5924.09
1972	1679.62	1984	4546.01	1996	6086.77
1973	1843.94	1985	4563.10	1997	6639.85
1974	2097.26	1986	4585.40	1998	6957.81
1975	2409.21	1987	4684.28	1999	7137.17
1976	2668.00	1988	4738.35	2000	7368.00
1977	2865.60	1989	4898.01	2001	7335.00
1978	3197.00	1990	4933.39	2002	7562.00
1979	3497.64	1991	5120.63	2003	7867.00
1980	3909.16	1992	5339.69	2004	8165.00
1981	4230.36	1993	5722.73	2005	8390.00

Chapter 2: Tabula Basics

Note: Tabula Software is equipped with various skins. Skins allow the user to alternate the appearance of Tabula. Figures in the manual are in Metal Skin.

Interface Anatomy

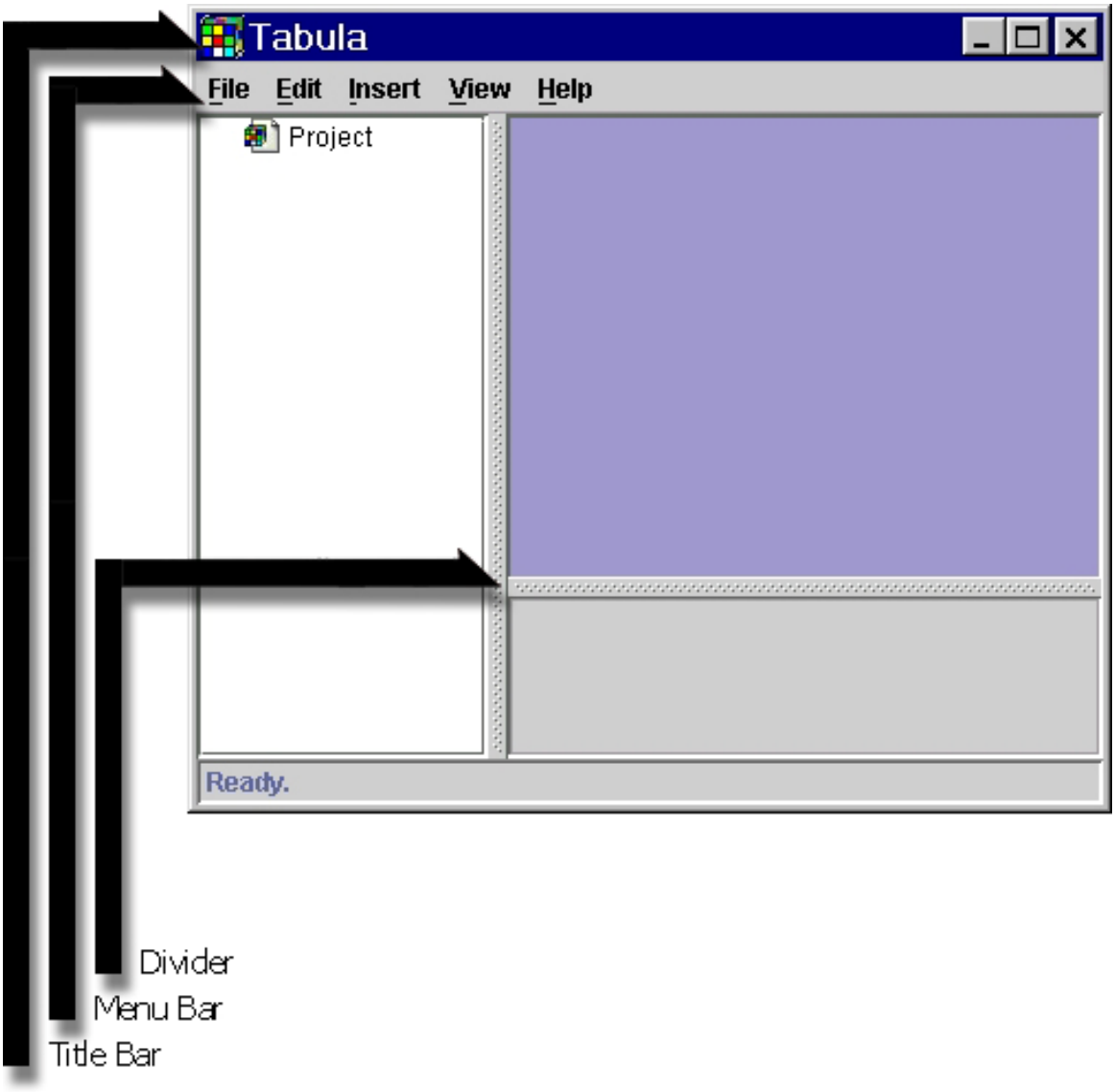


Figure 1

Dividers
Divide the Window into three panels. The dividers may be altered to customize the size of the panels

Menu Bar
The menu bar has five categories each with a series of commands

Category	Command
File	New, Open, Save, Save As, Export ..., Print, Exit
Edit	Cut, Copy, Paste, Rename, Delete, Cost Calculation Parameters ..., User Preferences
Insert	Pipe, Parallel Pipe, Jack and Bore, Microtunnel, Tunnel, Horizontally Drilled Pipe, Pump Station, Storage Facility, Project
View	Model Input, Cost Detail
Help	Show Criteria Description, About Tabula ...

Title Bar
When working on a saved project, the title bar will give the path directory to the project. The title bar has the minimize, maximize and close window options.

Building On Projects

When starting the initial project will be a general project icon located on the left panel 

There are nine subprojects which can be selected. They may be inserted under each other:

 Pipe
 Parallel Pipes
 Jack and Bore
 Microtunnel
 Tunnel
 Horizontally Drilled Pipe
 Pump Station
 Storage Facility
 Project

Projects may even be a project under another project.

If there is an item with no subproject for it, it may be added into the cost by selecting a project then viewing the **Mode Input** and adding it under **Additional Costs**. Shown below in Figure 2.

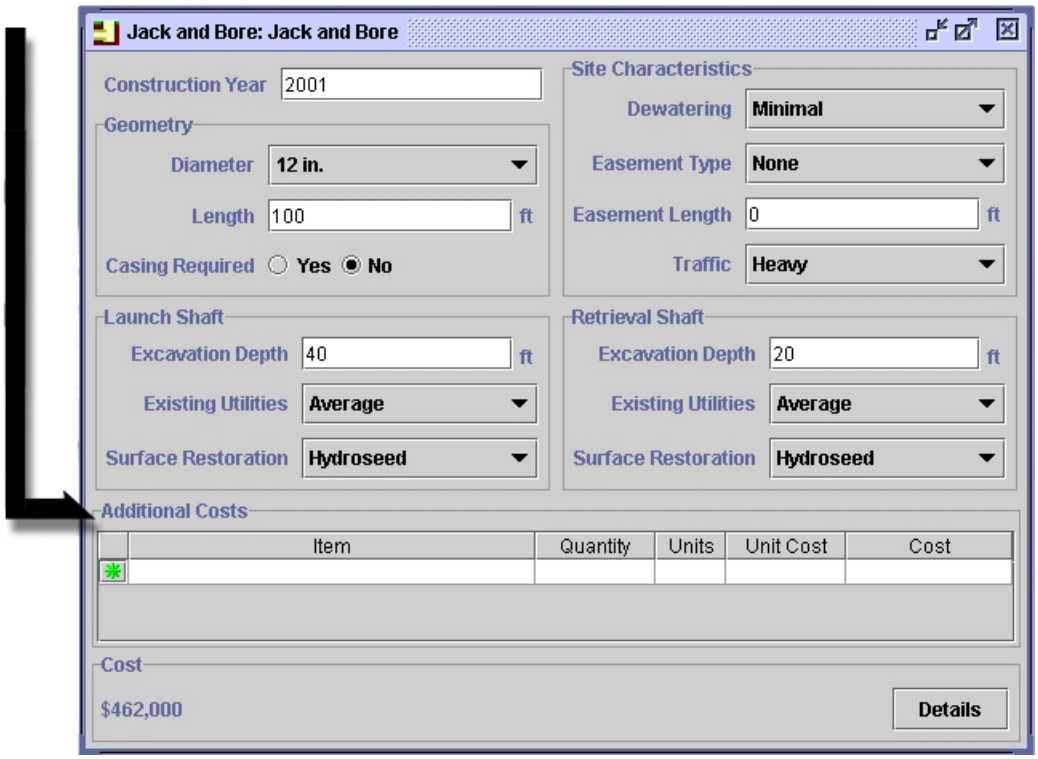


Figure 2

This is best done by selecting a general project, and adding additional costs to that general project, unless of course the additional item belongs under another subproject.

Editing Parameters

Each subproject has its own set of parameters that may be edited. Select the item then view its **Model Inputs** to make any edits.

Editing ENR CCI Values

In the toolbar under **Edit** choose the **Cost Calculation Parameters**, it will bring up ENR CCI Values so that they may be changed. Shown in Figure 3.

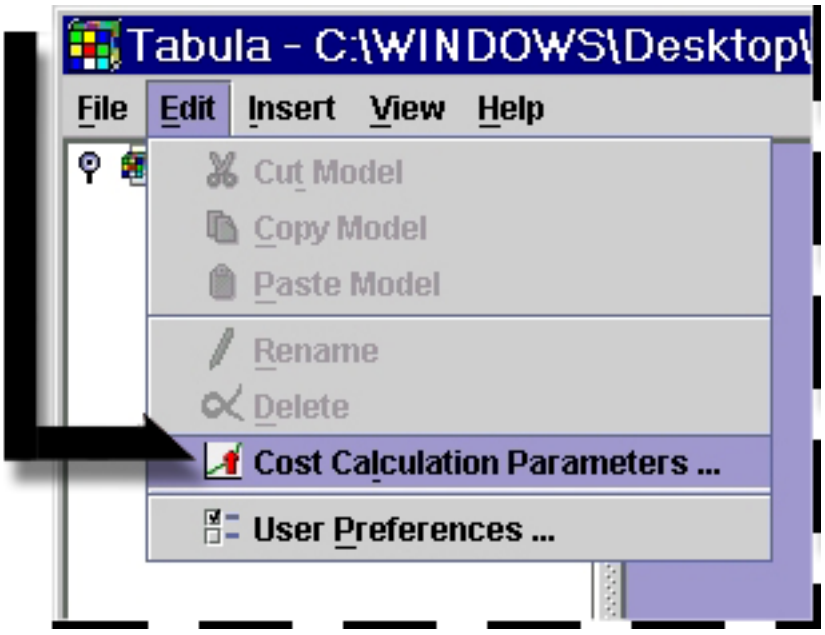


Figure 3

The ENR CCI Year just for a specific subproject may also be changed. Select the subproject, then view the **Model Input**. The top cell allows a value for the a ENR CCI year.

Saving and Opening Files

To save a file go to the menu bar and under **File** and select **Save** or **Save As**. **Crtl+S** will also save the file.

To open a file go to **File** and select **Open** or **Crtl+O**. Or select the tpr file and open. If you are working on a project, and open a new one, you will be prompted to a dialogue box where you can save the existing file.

Exporting

Exporting files allows the user to view the Cost Details as a txt or html file. A txt file may be viewed in most text editors i.e.(some common text editors are Notepad, and MS Word). The html file may be viewed on a browser. It may be saved as a file, or onto the system clipboard.

One of the main advantages of using the exporting tool is being able to view it on a spreadsheet, and then changes may be made easily.

Chapter 3: Previewing and Printing Information

Panels

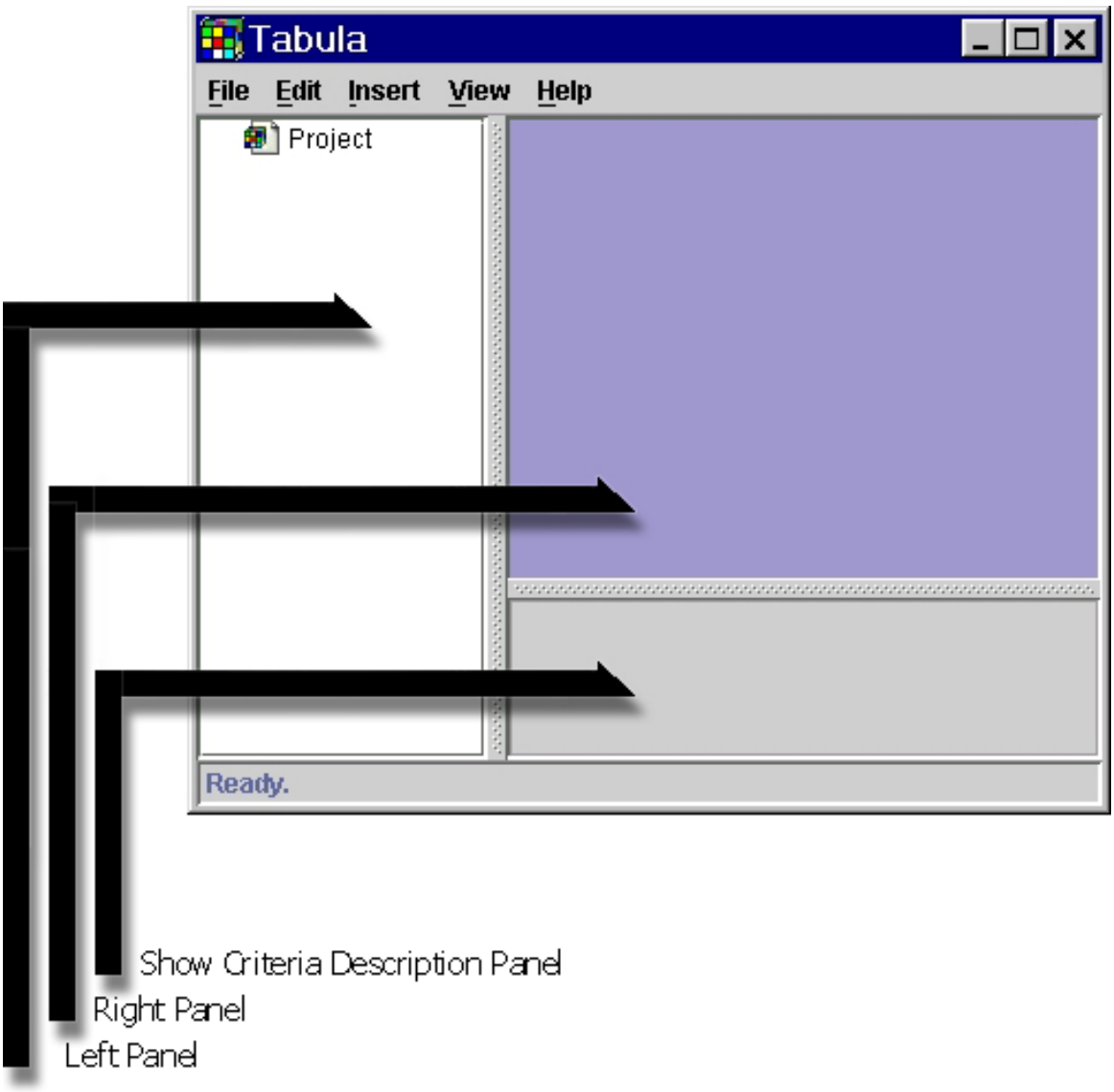


Figure 4

Left Panel

The left panel list the projects and shows the relation of projects with one another. It begins as a general project and additional projects are set under the first general project, an icon will appear on the left hand side.

Right Panel
Displays Model Input, and Cost Details

Show Criteria Description Panel
Gives a brief description of the variables for Model Inputs of subprojects. The default will not have this panel viewed. To view and unview go to **Help** under the menu bar, and select **Show Criteria Description**.

The Panel sizes may also be changed by using the mouse. Select the divider and drag it.

Cost Detail

The Cost Detail breaks down the project, giving the final cost of the project, and unit costs. It also gives a geometry breakdown of your project. When printing out your sheets, this will be the page printed.

To view the Cost Detail
Go on the menu bar and under the View tab select Cost Detail, or use the right mouse click on the project.

The total cost may be viewed by selecting a project then its price will be listed at the bottom shown in Figure 3. For this example the project selected was the Jack and Bore.

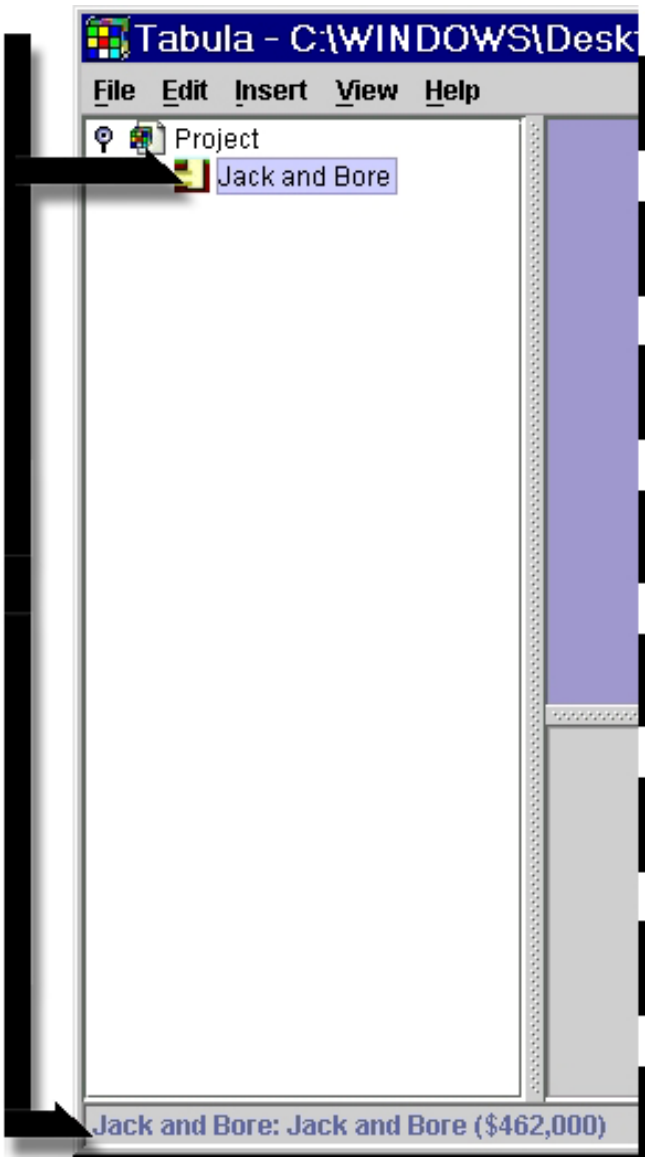


Figure 5

The estimated construction cost, does NOT include contingency, sales tax, or allied costs (design, permitting, construction management, etc.).

Printing

Select either **File** and **Print**, or by **Crtl+P** to print. The pages printed will be the **Cost Detail** sheet.

Chapter 4: Functions

Variables

A breakdown of characteristics and variables for each subproject. Every Subproject contains the Construction Year variable.

Pipe

Pipe Characteristics	Conduit Type, Diameter, Length
Trench Properties	Backfill, Disposal, Cover Depth, Manhole Spacing
Site Conditions	Trench Safety, Dewatering, Existing Utilites, Traffic, Required Easement, Land Acquisition, Pavement Restoration

Parallel Pipes

Pipe Characteristics	Conduit Type, Diameter 1, Diameter 2, Length
Trench Properties	Backfill, Disposal, Cover Depth, Manhole Spacing
Site Conditions	Trench Safety, Dewatering, Existing Utilities, Traffic, Required Easement, Land Acquisition, Pavement Restoration

Jack and Bore

Geometry	Diameter, Length, Casing Required
Launch Shaft	Excavation Depth, Existing Utilities, Surface Restoration
Site Characteristics	Dewatering, Easement Type, Easement Length, Traffic
Retrieval Shaft	Excavation Depth, Existing Utilities, Surface Restoration

Microtunnel

Geometry	Diameter, Length, Casing Required
Launch Shaft	Excavation Depth, Existing Utilities, Surface Restoration
Retrieval Shaft	Excavation Depth, Existing Utilities, Surface Restoration
Site Characteristics	Dewatering, Easement Type, Easement Length, Traffic
Intermediate Launch Shafts	Number of Shafts, Avg. Excavation Depth, Existing Utilities, Surface Restoration

Tunnel

Geometry	Diameter, Length
Launch Shaft	Excavation Depth, Existing Utilities, Footprint Type, Surface Restoration
Site Characteristics	Dewatering, Easement Type, Easement Length
Retrieval Shaft	Excavation Depth, Existing Utilities, Footprint Type, Surface Restoration

Horizontally Drilled Pipe

Geometry	Diameter, Length, Casing Required
Rig Side Site	Constrained Space, Existing Utilities, Surface Restoration
Site Characteristics	Gravels and Cobbles Present, Easement Type, Easement Length
Pipe Side Site	Constrained Space, Existing Utilities, Surface Restoration

Pump Station

Pump Station	Firm Capacity, Excavation Depth, Total Dynamic Head

Storage Facility

Operations	Storage Capacity, Outflow Type, Odor Control
Site Conditions	Foot Print, Land Acquisition, Surface Restoration, Dewatering

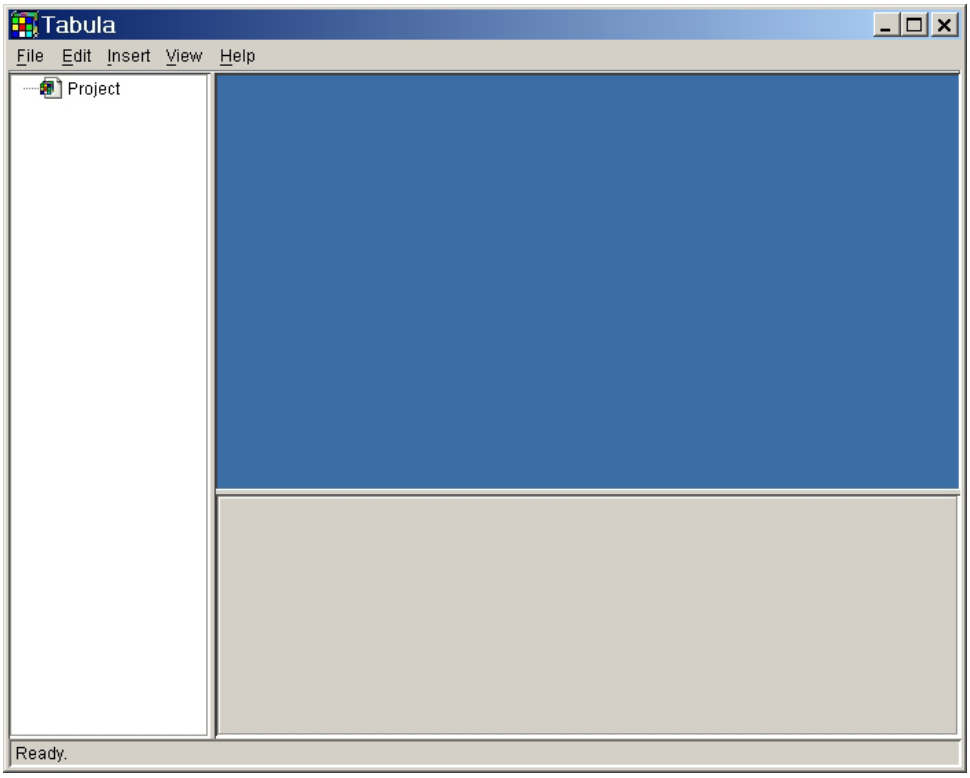
Project

Project	Comments

Aesthetics

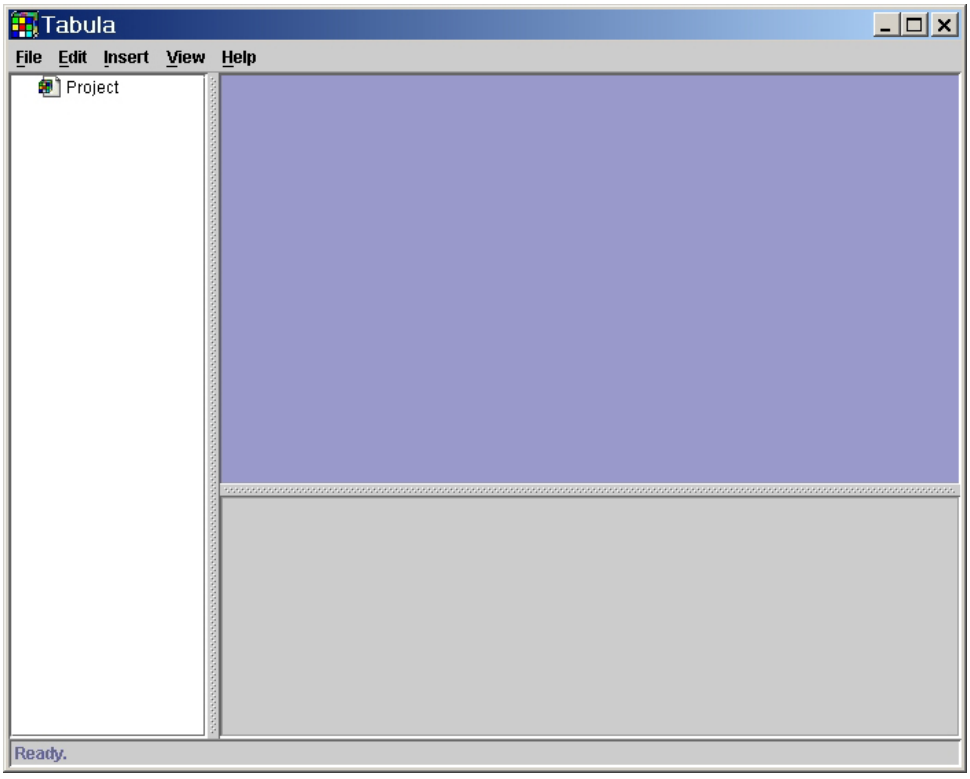
Tabula has three various Skins you can choose from. Tabula skins are alternative interfaces for Tabula. The skins allow the change of appearance of the Tabula Program. It does not change the functionality of it in any way. It is only a new 'surface' for Tabula.

From the toolbar, select **Edit**, then **User Preference**. The last item of the Dialogue Box will let you choose the skin; **Metal**, **CDE/Motif**, or **Windows.**



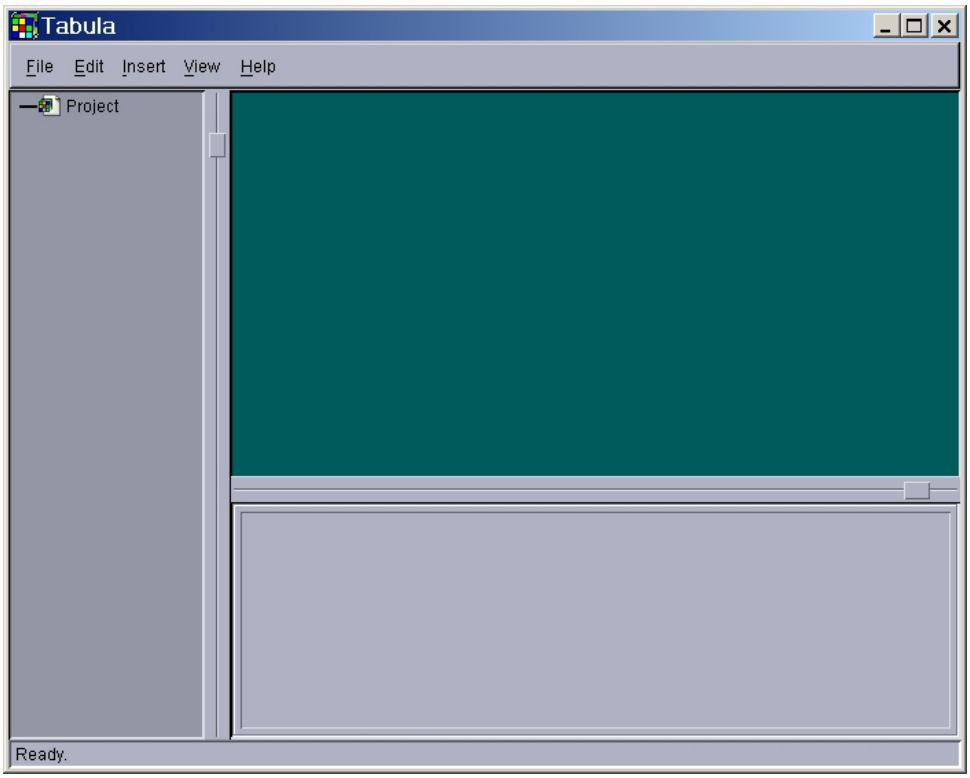
Windows

Figure 6



Metal

Figure 7



CDE/Motif

Figure 8

Of Course depending on the configuration of your windows appearance, Tabula may look different from above. The skin will not change until the next time Tabula is opened.

General

To view the model inputs, or cost details of a project, or to insert another project, there must be a project selected on the left panel.